

GOLF MAT AND PATTERN

Field of the Invention

This invention relates to a golf teaching aid.

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Background of the Invention

Golf is a game of distance and accuracy. There is a perfect golf swing for every golfer. Although numerous instructional and diagnostic golf mats and teaching aids are known, none has commercially replaced the traditional method of placing a club on the ground as a line of reference when hitting practice shots. Accordingly, prior art golf mats as exemplified by U.S. Patent Nos. 6,482,102 to Grabowski (Golf Learning and Guide Mat), 5,645,494 to Dionne et al (Instructional Golf Mat), 5,590,882 to Todd (Diagnostic Apparatus for Golfclub Swing Practice), 5,306,011 to Perry (Golf Swing Training Device), 5,163,686 to Bergman (Practice Mat for Golfers), 5,071,130 to Shofner (Device for Perfecting a Golfer's Swing), 4,915,387 to Baxtrom (Golf Practice and Training Device), 4,805,913 to Bott (Device for Development Golf Ball Address Stance), 4,000,905 to Shirhall (Practice Mat for Golfers), 3,350,101 to Bishop et al (Golf Swing Aid), 2,707,638 to Manley (Individualized Golfer's Chart), 1,484,390 to Gibbs et al (Instruction Chart for Playing Golf), and Des. 308,087 to Buffey (Golf Practice Mat), are limited by various drawbacks that hinder commercial acceptability.

For instance, the Dionne et al, Bott, Bishop and Buffey mats each include a foot placement grid that can be confusing to use. In particular, it may be difficult for a golfer to achieve precise, reproducible foot positioning and alignment. Of this prior art, Bott appreciates that a sound golf ball address stance is the single most important aspect that a golfer can control, and further that muscle

memory can be developed. Moreover, Bott somewhat solves the problem with his foot placement grid by using removably attachable foot silhouettes. However, such a solution is not without drawbacks, and in addition, the Bott mat is
5 limited by a single target line for sighting a target.

Furthermore, ball position in a golfer's stance is personal and will vary depending upon factors including club selection and objective. To provide for reproducible ball positioning, Bott relies upon a removably attachable
10 ball silhouette. Again, such an approach is not without drawbacks.

There therefore continues to be a significant need for an improved instructional and diagnostic golf teaching aid, in particular so that a perfect golf swing
15 becomes a matter of feel. In particular, precise and reproducible foot positioning and alignment are necessary, as well as a wide selection of precise, reproducible ball position options.

20 Summary of the Invention

The old axiom of "Practice Makes Perfect" is not completely true. "Perfect Practice Makes Perfect" is the whole truth. It is of ultimate importance that a golfer practice with purpose and precision, and that guesswork is
25 eliminated for line of sight, for body alignment and for ball position.

In accordance with a first aspect of the present invention, there is provided an instructional golf mat beneficially marked on its playing surface with a foot
30 placement grid conveniently formed by intersecting horizontal and vertical alignment lines, at least one sight or target line, and a plurality of ball position lines that provide an expansive selection of precise, reproducible ball positions. Furthermore, the playing surface of the
35 inventive golf mat is beneficially provided with at least

one area that simulates a fairway, in other words, with at least one clear hitting area.

In accordance with a second aspect of the present invention, there is provided an instructional and
5 diagnostic golf pattern. The inventive pattern likewise includes a foot placement grid conveniently formed by intersecting horizontal and vertical alignment lines, at least one sight or target line, and a plurality of ball position lines that provide an expansive selection of
10 precise, reproducible ball positions. Furthermore, the pattern is beneficially provided with at least one area that simulates a fairway, in other words, with at least one clear hitting area. The inventive pattern may be variously displayed, for instance, on the playing surface of a golf
15 mat or on the turf.

Advantageously, the inventive foot placement grid has an open look. For purposes of this description, the term "open look" as used herein is meant to distinguish over the prior art foot placement grids of Dionne et al,
20 Bott, Bishop and Buffey. Those grids include tightly spaced grid lines that appear to form squares, as a result of which a typical golfer's shoe will overlay many squares, for example, Bott's foot silhouette is shown to cover approximately 30 squares. Thus, those grids display too
25 many grid squares relative to a typical golfer's shoe size.

Advantageously, the inventive golf mat or pattern is provided with a plurality of sight or target lines defined by a first set of parallel line segments separated from a second set of parallel line segments by the clear
30 hitting area, and located generally opposite from one another. Beneficially, the inventive golf pattern or mat has a first set of ball position lines located generally opposite from a second set of ball position lines, and the clear hitting area provides separation between the first

set and second set of ball position lines. Advantageously, an appropriate ball position line selected from the first set of ball position lines may be used to locate a golf ball in the same precise location relative to the vertical alignment lines of the foot placement grid as the
5 respective corresponding ball position line of the second set.

Additional advantages and beneficial features of the present invention are set forth in the drawing and
10 detailed description, and in part will become apparent to those skilled in the art upon examination of the drawing and detailed description or may be learned by practice of the invention. In the drawing and detailed description, there are shown and essentially described only preferred
15 embodiments of this invention, simply by way of illustration of the best mode contemplated of carrying out this invention. As will be realized, this invention is capable of other and different embodiments, and its several details are capable of modification in various respects,
20 all without departing from the invention. Accordingly, the drawing and the detailed description are to be regarded as illustrative in nature, and not as restrictive.

Brief Description of the Drawing

25 Reference is now made to the accompanying drawing which forms a part of the specification of the present invention.

Figure 1 is a top view of a preferred embodiment of a golf mat in accordance with the invention, which
30 illustrates a golfer having his shoulders, hips and feet parallel to the mat sight lines in a perfectly square stance in which the ball is exactly in the middle of the stance, with the golfer using an iron;

Fig. 2 is a partial top view of the golf mat of
35 Fig. 1, illustrating beneficial ball placement and, in

phantom, beneficial foot placement, when using a long wood;

Fig. 3 is a top view of a second preferred embodiment of a golf mat in accordance with the present invention, which indicates the ball on a tee, and in
5 phantom, foot placement for a slightly open stance;

Fig. 4 is a cross-sectional view taken substantially through a line 4--4 of Fig. 3;

Fig. 5 is a perspective view of the golf mat of Fig. 3, illustrating a golfer playing the ball off the left
10 heel with the slightly open stance and tee placement indicated in Fig. 3, and using a driver; and

Fig. 6 is a view like Fig. 5, of the golf mat pattern of Fig. 3 displayed on the turf.

15 Detailed Description of the Invention

In accordance with the present invention, there are provided an instructional golf mat and pattern that serve the needs of the first time ever beginner to the world's greatest golfers. Beneficially, golfers using the
20 mat and pattern can practice with purpose and precision, and be instructed precisely, and can develop the techniques that are used to hit the ball in the desired manner. In this way, each golfer can master a repetitious swing that is the perfect golf swing for him and that becomes a matter
25 of feel. Repetition develops muscle memory and allows the golfer to finally trust his swing to feel.

As mentioned, the golf mats and patterns described herein, are preferred embodiments. These mats and patterns can vary in size, and thus dimensions of
30 certain features given in the description, can vary. In any event, useful mats include 5' x 5', 4' x 5', 4' x 4', 3' x 4', and 3' x 5' mat sizes. In the description of the invention, relative terms such as "horizontal", "vertical", "top", "lower" and the like have been used particularly
35 with reference to the drawing to assist understanding.

With reference to Figs. 1 and 2 of the drawing, the playing surface of a golf mat 10 in accordance with the invention, beneficially includes a generally centrally-located, foot placement grid 12 having an open look, and
5 clear hitting areas 14,64, which are unlined areas, near the grid. The foot placement grid is conveniently formed by a plurality of parallel horizontal alignment lines 20 that intersect a plurality of parallel vertical alignment lines 22. Unlined areas 14,64 each simulate a fairway.

10 Golf is about angles and the laws of physics. A golf mat and pattern in accordance with the present invention take away guess work about proper foot position and beneficially provide for precise, reproducible foot placement and alignment without needless clutter.
15 Accordingly, horizontal alignment lines 20 are advantageously spaced apart from one another and vertical alignment lines 22 are advantageously spaced apart from one another to form a grid with an open look, so as to assist precise and reproducible placement and alignment of the
20 golfer's feet and easy recall thereof. Thus, the width of the grid spaces, that is, the distance between vertical alignment lines 22, may, as shown, beneficially be greater than the width of a typical golfer's shoe. However, if desired, an open look in accordance with the invention, can
25 be maintained, with more closely spaced vertical lines, for example, the spacing could be about half that shown. By comparison, the foot placement grids of the prior art golf mats previously discussed, do not have an open look, but rather have tightly spaced, grid spaces.

30 Furthermore, the grid spaces formed by alignment lines 20,22 may advantageously be rectangular, with more distance between vertical lines 22 than between horizontal lines 20. In a particularly useful embodiment, a golf mat and pattern in accordance with the invention, include a
35 grid with an open look and rectangular grid spaces, with an

about 3:2 width (spacing between grid lines 22) to length (spacing between grid lines 20) ratio beneficially used. By comparison, the grids of the prior art mats previously discussed, appear to have square spaces.

5 With continued reference to Figs. 1 and 2, golf mat 10 beneficially includes a plurality of sight lines to sight a target and align the mat with a target. For this purpose, an end 26 of mat 10 is marked with a set of parallel line segments 30a,30b,30c separated from a set of
10 parallel line segments 32a,32b,32c by clear hitting area 14, and located generally opposite to one another near mat corners 17,18. Conveniently, line segment ends 33,34 touch mat side edges 15,16.

 Line segments 30a,32a and line segments 30b,32b
15 and line segments 30c,32c each define a line of sight, and together with a sight line 36, which is the sight line furthest from grid 12, define a plurality of parallel, spaced apart sight lines. The sight lines defined by line segments 30,32 pass through clear hitting area 14, and as
20 will become understood, it is advantageous that the portions of these sight lines passing through the clear hitting area, are substantially between the hereafter-described ball position lines 40,46. Sight line 36 conveniently is marked on a top edge 38 of mat end 26, and
25 runs the entire length of the mat edge.

 In accordance with the invention, these sight lines are beneficially parallel to horizontal grid lines 20 and perpendicular to vertical grid lines 22. With reference to Fig. 1 in particular, sight lines located
30 between the golf ball and mat top edge 38, i.e., sight line 36 and the sight line defined by line segments 30a,32a, assist a golfer in squaring the club face.

 It is an objective of this invention that a golfer be able to accurately duplicate the desired golf
35 ball position for every shot; and to achieve this

objective, it must be taken into account that the position of the golf ball in a golfer's stance varies among golfers. Furthermore, to hit the ball lower, the ball is further back in the stance, whereas high trajectory shots are
5 played with the ball forward in the stance. The ball is also moved forward or backward depending upon the club used. It is necessary that each golfer find the optimum ball position for his personal swing. To this end, mat end 26 is advantageously provided with ball position lines
10 40,46, which, as indicated, may beneficially be used with the sight lines to provide an extensive selection of precise, reproducible ball positions.

To assist easy recall of ball placement, it is highly convenient for vertical grid lines 22 to extend past
15 a horizontal grid line 20a located closest to clear hitting area 14, and thereby define a portion of a set of ball position lines 40, which conveniently extend from horizontal line 20a in the direction of the clear hitting area. In such case, ball position lines 40b are extensions
20 of vertical alignment lines 22, and ball position lines 40 are thereby tied to the vertical alignment lines. In addition, it is highly convenient for, as shown, groups of spaced apart relatively shorter ball position lines 40a to be between pairs of spaced apart relatively longer ball
25 position lines 40b.

If desired, the ends of ball position lines 40 nearer horizontal grid line 20a can be spaced from horizontal line 20a. Regardless, ball position lines 40 advantageously are perpendicular to horizontal grid line
30 20a.

As can be understood from Figs. 1 and 2, to benefit precise, reproducible ball placement, ball position lines 40 are closely spaced, whereas vertical grid lines 22 are more widely spaced apart. Furthermore, golf mat 10 is
35 marked with a second set of ball position lines 46 that are

spaced apart from ball position lines 40 and conveniently extend from sight line 36 in the direction of clear hitting area 14 and toward ball position lines 40. Like lines 40, to assist easy recall of ball placement, it is highly
5 convenient for, as shown, groups of spaced apart relatively shorter ball position lines 46a to be between pairs of spaced apart relatively longer ball position lines 46b. In a particularly useful embodiment of a mat or pattern in accordance with the invention, ball position lines 46 are
10 closely spaced, and 1" spacing provides 1" increments between lines 40 and between lines 46.

If desired, the ends of ball position lines 46 nearer sight line 36, can be spaced from sight line 36. Regardless, ball position lines 46 are advantageously
15 perpendicular to sight line 36.

Ball position lines 46 beneficially correspond in position to ball position lines 40 relative to vertical grid lines 22, such that an appropriate ball position line 46 is useful for locating a ball 44 in the same precise
20 location relative to the vertical grid lines, as the respective corresponding ball position line 40. Thus, if lines 40 were extended through clear hitting area 14, lines 46 would be linear continuations of lines 40. Instead, mat 10 is beneficially provided with clear hitting area 14, and
25 ball position lines 40,46 conveniently extend only a short distance toward one another, in other words, are about 1 to 2 inches in length.

Advantageously, golf mat 10 is provided with a plurality of tee placement apertures 50 appropriately
30 located near mat edge 38 and appropriately spaced apart from one another for tee placement, for instance, about 12" apart. Conveniently, the tee placement apertures touch the tip ends 52 of lines 46b located relatively closer to clear hitting area 14. The tee placement apertures are described
35 in further detail with respect to the embodiment of Figs.

3-5, the pertinent details of which are hereby incorporated into this description of tee placement apertures 50.

With continued reference to Figs. 1 and 2, golf mat 10 beneficially accommodates left and right handed
5 golfers, or may be rotated 180° for increased wearability and use. Accordingly, a mat end 56 opposite mat end 26, beneficially includes sight lines and ball position lines like those previously described.

As indicated, mat end 56, like mat end 26,
10 beneficially is marked with a set of parallel line segments 60a,60b,60c separated from a set of parallel line segments 62a,62b,62c by a clear hitting area 64, and located generally opposite to one another near mat corners 57,58. Conveniently, the ends of these line segments touch mat
15 side edges 15,16.

Line segments 60a,62a and line segments 60b,62b and line segments 60c,62c each define a line of sight, and together with a sight line 66, which is the sight line furthest from grid 12, define a plurality of parallel,
20 spaced apart lines of sight. As before, these sight lines are beneficially parallel to horizontal grid lines 20 and perpendicular to vertical grid lines 22. Also as before, the sight lines defined by line segments 60,62 pass through clear hitting area 64, and it is advantageous that the
25 portions of these sight lines passing through the clear hitting area, are substantially between the hereafter-described ball position lines 70,76. By comparison, sight line 66 is conveniently marked on a lower edge 68 of mat end 56 and runs the entire length of the lower mat edge.

30 Golf mat 10 further includes a set of ball position lines 70 that conveniently extend from horizontal line 20g in the direction of clear hitting area 64, and a plurality of ball position lines 76 that conveniently extend from sight line 66 in the direction of clear hitting
35 area 64 and toward ball position lines 70. As before, ball

position lines 76 beneficially correspond in position to ball position lines 70 relative to vertical grid lines 22, such that an appropriate ball position line 76 is useful for locating a golf ball in the same precise location
5 relative to the vertical grid lines, as the respective corresponding ball position line 70.

Also as before, ball position lines 70,76 conveniently extend only a short distance toward one another, in other words, are about 1 to 2 inches in length;
10 and, to assist easy recall of ball placement, it is highly convenient for groups of spaced apart relatively shorter ball position lines 70a to be between pairs of spaced apart relatively longer ball position lines 70b, and for groups of spaced apart relatively shorter ball position lines 76a
15 to be between pairs of spaced apart relatively longer ball position lines 76b. Further details of ball position lines 70,76 may be understood from the earlier description of ball position lines 40,46, to which attention is invited.

Likewise, golf mat 10 beneficially is provided
20 with a second plurality of tee placement apertures 80 appropriately located near mat edge 68, and appropriately spaced apart from one another for tee placement. As shown, the tee placement apertures may conveniently touch the tip ends 82 of ball position lines 76b located relatively
25 closer to clear hitting area 64.

A particularly preferred embodiment of golf mat 10 is a mat with overall dimensions of about 5' x 5'. For this mat, vertical grid lines 22 are beneficially spaced about 6" apart, and horizontal grid lines 20 are
30 advantageously spaced about 4" apart, thereby providing rectangular grid spaces having a 3:2 width to length ratio. Furthermore, for this mat, it is suitable for relatively shorter ball position lines 40a,46a,70a,76a to be about 1" long, for relatively longer ball position lines
35 40b,46b,70b,76b to be about 2" long, and for line segments

30,32,60,62 and sight lines 36,66 to be about 1" in width. Moreover, for this mat, it is beneficial for relatively shorter ball position lines 40a to be spaced about 1" apart in groups of five between pairs of relatively longer ball position lines 40b, for ball position lines 40b to be spaced about 6" apart, and for line segments 30a,30b,30c to be spaced about 3" apart from one other. Like spacing may be understood to be advantageous between relatively shorter ball position lines 46a, between relatively longer ball position lines 46b, between relatively shorter ball position lines 70a, between relatively longer ball position lines 70b, between relatively shorter ball position lines 76a, and between relatively longer ball position lines 76b. Furthermore, 3" spacing may be understood to be advantageous between line segments 32a,32b,32c, between line segments 60a,60b,60c and between line segments 62a,62b,62c. Suitably, vertical grid lines 22a,22i are positioned approximately 6" from the respective mat side edges 15,16.

In use and initially referring to Fig. 1, the golf mat is positioned using the appropriate sight lines to align the mat with a target (not shown), and then a golfer positions his feet on mat grid 12 using alignment lines 20,22.

Fig. 1 shows a stance in which the shoulders and hips are parallel to the sight lines. The back foot should be square, as shown, and the front foot can be square, as shown, or open as shown in Fig. 2, or closed (not shown). The golfer positions his feet relatively forward (Fig. 1) or backward (Fig. 2) on the mat grid, depending upon the club selected (iron, Fig. 1; long wood, Fig. 2) and the ball position. With the open look provided by grid alignment lines 20,22, the golfer can achieve precise, reproducible foot positioning and alignment, and otherwise see for certain if he is using a correct stance.

With continued reference to golf mat 10 of Figs. 1 and 2, to precisely reproduce a desired golf ball position, the golfer can use appropriate ball position lines 40,46, and also an appropriate sight line: Fig. 1-the appropriate sight line is defined by line segments 30b,32b; Fig. 2-the appropriate sight line is defined by line segments 30a,32a. Thus, the plurality of spaced apart, parallel sight lines can assist precise, reproducible positioning of the ball. Furthermore, in a particularly useful embodiment of a golf mat or pattern in accordance with the present invention, the ball position lines are spaced about 1" apart.

Thus, a golf mat or pattern in accordance with the invention allows a golfer to be 100% sure of his set-up for each shot. The golfer can precisely repeat his foot position and ball position for every practice swing. After repetitive swings, the golfer is able to determine the proper set-up that will give the maximum desired results. By accurate repetition using the proper set-up, the golfer develops muscle memory that allows him to finally trust his swing to feel. Furthermore, use of a golf mat in accordance with the invention, allows any golfer an opportunity to clearly see and understand what they are truly feeling.

With reference to Figs. 3 to 5 of the drawing, a second preferred embodiment of the present invention is illustrated. Golf mat 110 differs from golf mat 10 in that a foot placement grid 112 of mat 110 is located on a lower mat end 156, rather than being generally centrally located, and in that mat 110 lacks a clear hitting area on lower mat end 156 and thus is provided with only clear hitting area 114. Furthermore, clear hitting area 114 is relatively longer (length direction indicated by "L", width direction indicated by "W" in Fig. 3; for purposes of the description, the length and width directions are the same

for golf mat 10) than clear hitting area 14 of mat 10, and additional line segments 130d, 130e and 132d, 132e are provided for defining additional sight lines. Other differences include tee apertures 150 spaced from tip ends
5 152 of ball position lines 146b, and tee apertures 150 spaced closer together than tee apertures 50. For sake of brevity in the description of golf mat 110, corresponding 100 series numbering has been used in Figs. 3-5 for like parts of golf mat 110. It is thus intended that reference
10 can be made to the earlier description relative to golf mat 10.

With reference now particularly to Fig. 4, a tee 88, suitably of rubber, is shown. Conveniently, the tee is inserted from a mat underside 190 opposite the mat playing
15 area through selected tee aperture 150, and a foot 92 of the tee is positioned against the mat underside.

A particularly preferred embodiment of golf mat 110 is a mat with overall dimensions of about 4' x 4'. For this mat, as for golf mat 10, vertical grid lines 122 are
20 beneficially spaced about 6" apart, and horizontal grid lines 120 are advantageously spaced about 4" apart. Also as before, in the particularly useful embodiment, ball position lines 140a are about 1" long and spaced about 1" apart in groups of five between pairs of ball position
25 lines 140b, and ball position lines 140b are about 2" long and spaced about 6" apart.

Fig. 4 also illustrates that a typically useful mat may have a rubber or rubber-like lower layer 194 with a turf-simulating upper layer 196, for instance, a knitted
30 nylon playing surface, bonded or otherwise attached. Numerous commercially available golf mats can be suitably used to produce a golf mat in accordance with the present invention, and these include commercially available mats having, for instance, a high density foam lower layer.
35 True ball flight and spin, shock absorption capability,

durability, feel and comfort, and price are important considerations for selection of an appropriate commercially available mat for producing a golf mat in accordance with the present invention.

5 With reference to Fig. 6, an instructional golf pattern 210 in accordance with the present invention, is illustrated displayed on the turf. For simplification of the description, instructional pattern 210 corresponds to the pattern displayed on golf mat 110. However, it will be
10 readily recognized that other instructional patterns in accordance with the present invention, can be displayed in place of pattern 210. Furthermore, for sake of brevity in the description, corresponding 200 series numbering has been used in Fig. 6 for parts like the parts of the pattern
15 of golf mat 110. Thus, instructional golf pattern 210 includes a foot placement grid pattern 212, a set of parallel line segments 230 separated from a set of parallel line segments 232 by a clear hitting area 214, a sight line 236, ball position lines 240, 246, and tee placement marks
20 250.

 It will be readily recognized that pattern 210 could be modified, if desired, by, for example, removing side edge lines 215, 216. A suitable method of displaying an instructional pattern in accordance with the present
25 invention, on a mat or on turf may use a water-based paint or water soluble paint, as desired or appropriate. An appropriate stencil (not shown) may be used.

 The present invention may be carried out with various modifications without departing from the spirit or
30 essential attributes thereof, and accordingly, reference should be made to the appended claims, rather than to the foregoing specification as indicating the scope of the invention.